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tive position such that the central major portion or body 34 and the lateral retainer extensions or fingers 36 are held in position to engage the patient's limb PL when the inflatable fluid tight enclosure or bladder 12 is inflated with a gas, liquid or gel to immobilize the patient's limb PL.

FIG. 8 depicts another alternate embodiment of the alignment retainer 14 comprising a plurality of beads or pellets generally indicated as 54 loosely disposed within the fluid tight chamber 32 when at or about atmospheric pressure. The beads or pellets 54 are manufactured from a suitable material to permit the beads or pellets 54 to be tightly packed together when a vacuum is created within the fluid tight chamber 32 by the fluid pressure regulator 16.

As shown in FIG. 9, when tightly packed under vacuum the beads or pellets **54** form a rigid mass such that the fracture alignment device **10** immobilizes the patient's limb PL.

Finally, as shown in FIG. 10, the present invention may comprise a plurality of inflatable retainer devices each generally indicated as 56 and a bed or platform generally indi- 20 cated as 58. These inflatable retainer devices 56 are configured to engage the leg, the foot, the ankle, and the heel of a person. Each inflatable retainer device 56 is constructed similar to the fracture align device 10 depicted in FIGS. 1 through 6. That is, each inflatable retainer device 56 comprises an 25 inflatable fluid tight enclosure or bladder and an alignment retainer. Each inflatable fluid tight enclosure or bladder is coupled to a fluid pressure regulator 16 through a fluid supply conduit 18 to supply fluid to the interior of the inflatable fluid tight enclosure or bladder to selectively inflate the individual 30 inflatable fluid tight enclosures or bladders. The fluid pressure regulator 16 may comprise an air or gas pump or pressurized air or gas tank 20 with a control or similar air supply control. A pressure relief valve 26 may be used to selectively relieve the internal pressure from the interior of the individual inflatable fluid tight enclosures or bladders or the bed or platform 58 to deflate the inflatable fluid tight enclosure or bladder or the bed or platform 58 after use into an ambient state or condition. Each inflatable fluid tight enclosure or bladder 56 and the bed or platform 58 may have a one-way check valve 40 (not shown) to prevent deflation of any other fluid tight enclosures or bladders 56 or the bed or platform 58 when deflating any particular chamber.

The inflation and pressure relief of the individual inflatable fluid tight enclosures or bladders creates the desired stiffness of the inflatable retainer devices **56** around the patient's limb PL so that the needed support is maintained and the movement and flexibility of the patient's limb PL is controlled without causing unnecessary discomfort. Moreover, the pressure created does not obstruct blood flow. When inflated, the 50 inflatable retainer devices **56** conform to the shape of the appropriate portion of the body.

The bed or platform **58** may comprise an inflatable bed or mattress **60** coupled to a separate air pressure source **62** through a gas supply conduit **64** to feed gas to the interior of 55 the bed or platform **58** when activated by a control **66**. Pressure is relieved through valve **68**.

Straps or belts 70 may be used to aid in securing the patient in place on the inflatable bed or mattress 60 or bed or platform 58

It will thus be seen that the objects set forth above, among those made apparent from the preceding description are efficiently attained and since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

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It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Now that the invention has been described,

The invention claimed is:

- 1. An inflatable fracture alignment device to immobilize a patient's limb during a surgical procedure comprising an inner flexible layer and an outer flexible layer of fluid impervious material to cooperatively form a fluid tight chamber coupled to a pressure regulator to supply gas to said fluid tight chamber and an alignment retainer, said inner flexible layer and said outer flexible comprise an inflatable central major portion or body having a first lateral side and a second lateral side adapted to be disposed substantially parallel to the patient's limb to be immobilized and a plurality of inflatable lateral retainer extensions or fingers integrally formed with said inflatable central major portion or body adapted to be disposed substantially perpendicular to the patient's limb to be immobilized and to secure said inflatable fracture alignment device to the patient's limb, each said inflatable lateral retainer extension or finger extending outwardly from either said first lateral side of said inflatable central major portion or body or from said second lateral side of said central inflatable major portion or body, each said inflatable lateral retainer extension or finger having an outer periphery, said plurality of inflatable lateral retainer extensions or fingers on said first lateral side of said central inflatable major portion or body are spaced apart relative to each other to cooperatively form a longitudinal opening between adjacent inflatable lateral retainer extensions or fingers and said plurality of inflatable lateral retainer extensions or fingers on said second lateral side of said inflatable central major portion or body are spaced apart relative to each other to cooperatively form a longitudinal opening between adjacent inflatable lateral retainer extensions or fingers and said alignment retainer comprises a malleable wire element forming a continuous loop disposed adjacent said outer periphery of each said inflatable lateral retainer extension or finger to encircle at least most of the patient's limb when bent to conform with the patient's limb to secure said inflatable fracture alignment device on the patient's limb such that said inflatable central major portion or body and said inflatable lateral retainer extensions or fingers are held in position to immobilize the patient's limb during a surgical procedure and allow for normal blood flow when said inflatable fracture alignment device is inflated.
- 2. The inflatable fracture alignment device of claim 1 wherein adjacent portions of the malleable wire element on each lateral side of said inflatable central major portion or body are coupled together in spaced relationship relative to each other by a corresponding wire element disposed adjacent each corresponding lateral side of said inflatable central major portion or body adapted to be disposed substantially parallel to the patient's limb.
- 3. The inflatable fracture alignment device of claim 2 wherein said inflatable lateral retainer extensions or fingers on said first lateral side of said inflatable central major portion or body are aligned with said longitudinal openings formed between adjacent inflatable lateral retainer extensions or fingers on said second lateral side of said central major portion or body and said inflatable lateral retainer extensions or fingers on said second lateral side of said inflatable central major portion or body are aligned with said longitudinal openings formed between adjacent inflatable lateral retainer extensions or fingers of said first lateral side of said inflatable central portion or body.